NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 7/31/2014

Control	**0017-10-271**
Project	**STP 1402(064)MM**
Highway	**IH 35**
County	**BEXAR**

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an adendum notification which details the changes and the respective proposal pages which were added and/ or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped “This Proposal Issued for Informational Purposes.”

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

04/99

SUBJECT: PLANS AND PROPOSAL ADDENDUMS
PROJECT: STP 1402(064)MM CONTROL: 0017-10-271
COUNTY: BEXAR
LETTING: 08/06/2014
REFERENCE NO: 0731

PROPOSAL ADDENDUMS

_ PROPOSAL COVER
X BID INSERTS (SH. NO.: 1-5 THRU 5-5)
X GENERAL NOTES (SH. NO.: A-Q)
X SPEC LIST (SH. NO.: 1-3 THRU 3-3)
X SPECIAL PROVISIONS:
ADDED:

DELETED: 514-002

X SPECIAL SPECIFICATIONS:
ADDED: 2315

DELETED:

X OTHER: AS LISTED BELOW

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

PROPOSAL
****
BID TABS; DELETED ITEM 514-2004, ADD ITEM 2315-2001

GENERAL NOTES
SHEET A, REMOVE NOTE REGARDING MODIFIED STANDARDS
SHEET I, REMOVED NOTES UNDER ITEM 512 AND 514
SHEET J, ADDED NOTES FOR ITEM 2315

SPEC LIST
REMOVED STANDARD SPECIFICATION ITEM 514
REMOVED SPECIAL PROVISION 514---002
ADDED SPECIAL SPECIFICATION 2315

PLANS
*****
SHEET 2, CHANGED THE BARRIER AND ATTENUATOR TYPES
SHEET 6, CHANGED THE BARRIER FROM SSCB TO MOVEABLE CONCRETE TAFFIC BARRIER
SHEET 7, 7A-7H; REVISED GENERAL NOTES AS NOTED ABOVE
SHEET 8 AND 8A; DELETED ITEM 514-2004 ADDED ITEM 2315-2001
DESCRIPTION OF ABOVE CHANGES (CONTINUED)
(INCLUDING PLANS SHEET CHANGES)

SHEET 10; CHANGED ITEM 514-2004 TO ITEM 2315-2001
SHEET 16; REVISED THE TCP NARRATIVE TO INCLUDE THE NEW BARRIER
SHEET 20; ADDED CTB CENTERLINE
SHEET 21; CORRECTED TYPO IN QUANTITY BOX
SHEET 25; REMOVED THE MILLING DETAIL AND CHANGED THE BARRIER TYPE
SHEET 27; CORRECTED TYPO IN QUANTITY BOX
SHEET 69; REMOVED CENTERLINE INFORMATION
SHEET 70-73; CHANGED THE BARRIER FROM SSCB TO MOVEABLE CONCRETE TRAFFIC BARRIER
SHEET 74-75; REPLACED EXISTING SHEETS WITH MOUNTING DETAILS
SHEET 76; REPLACED THE SSCB STANDARD WITH TAU-11-R(N)-13 STANDARD
SHEET 77-78; OMITTED
SHEET 79; CORRECTED TITLE BLOCK
SHEET 81; CORRECTED LINEWORK TO MATCH BEGIN STRIPE CALLOUT

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	2002	002	PREPARING ROW DOLLARS and CENTS	STA	34.030	1
	316	2365	016	AGGREGATE (TY B GR 4) DOLLARS and CENTS	CY	241.000	2
	316	2567	016	ASPH(AC-15P OR20-5TR OR20XP OR10-2TR) DOLLARS and CENTS	GAL	8,310.000	3
	354	2024		PLANE ASPH CONC PAV(2" TO 4") DOLLARS and CENTS	SY	27,700.000	4
	500	2001	011	MOBILIZATION DOLLARS and CENTS	LS	1.000	5
	502	2001	033	BARRICADES, SIGNS AND TRAFFIC HAN-DLING DOLLARS and CENTS	MO	3.000	6
	545	2001		CRASH CUSH ATTEN (INSTL) DOLLARS and CENTS	EA	1.000	7
	636	2003	014	ALUMINUM SIGNS (TY O) DOLLARS and CENTS	SF	1,273.750	8
	636	2007	014	REPLACE EXISTING ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	168.000	9
	644	2001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) DOLLARS and CENTS	EA	2.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	644	2027		IN SM RD SN SUP&AM TYS80(1)SA(U) DOLLARS and CENTS	EA	1.000	11
	644	2060		REMOVE SM RD SN SUP & AM DOLLARS and CENTS	EA	3.000	12
	644	2063		INS SM RD SN SUP&AM (RAIL MOUNT) DOLLARS and CENTS	EA	5.000	13
	650	2226		REMOVE OVERHD SIGN SUP(SIGN ONLY) DOLLARS and CENTS	EA	5.000	14
	662	2001		WK ZN PAV MRK NON-REMOV (W) 4" (BRK) DOLLARS and CENTS	LF	1,210.000	15
	662	2002		WK ZN PAV MRK NON-REMOV (W) 4" (DOT) DOLLARS and CENTS	LF	30.000	16
	662	2004		WK ZN PAV MRK NON-REMOV (W) 4" (SLD) DOLLARS and CENTS	LF	5,584.000	17
	662	2012		WK ZN PAV MRK NON-REMOV (W) 8" (SLD) DOLLARS and CENTS	LF	4,039.000	18
	662	2013		WK ZN PAV MRK NON-REMOV (W) 12" (LNDP) DOLLARS and CENTS	LF	240.000	19
	662	2014		WK ZN PAV MRK NON-REMOV (W) 12" (SLD) DOLLARS and CENTS	LF	648.000	20

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	662	2032		WK ZN PAV MRK NON-REMOV (Y) 4" (SLD) DOLLARS and CENTS	LF	6,211.000	21
	666	2006		REFL PAV MRK TY I (W) 4" (DOT)(100MIL) DOLLARS and CENTS	LF	30.000	22
	666	2036		REFL PAV MRK TY I (W) 8" (SLD)(100MIL) DOLLARS and CENTS	LF	4,039.000	23
	666	2039		REFL PAV MRK TY I (W) 12"(LNDP)(100MIL) DOLLARS and CENTS	LF	825.000	24
	666	2042		REFL PAV MRK TY I (W) 12"(SLD)(100MIL) DOLLARS and CENTS	LF	900.000	25
	666	2054		REFL PAV MRK TY I (W) (ARROW) (100MIL) DOLLARS and CENTS	EA	13.000	26
	666	2096		REFL PAV MRK TY I (W) (WORD) (100MIL) DOLLARS and CENTS	EA	20.000	27
	666	2189		PAVEMENT SEALER 4" DOLLARS and CENTS	LF	13,035.000	28
	666	2191		PAVEMENT SEALER 8" DOLLARS and CENTS	LF	4,039.000	29
	666	2193		PAVEMENT SEALER 12" DOLLARS and CENTS	LF	1,725.000	30
	666	2255		REFL PAV MRK TY I (W)(NUMBER)(100MIL) DOLLARS and CENTS	EA	1.000	31

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	668	2136		PREFAB PAV MRK (TY C)(MULTI)(SHIELD) DOLLARS and CENTS	EA	15.000	32
	672	2017	034	REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	381.000	33
	677	2001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	9,455.000	34
	677	2003		ELIM EXT PAV MRK & MRKS (8") DOLLARS and CENTS	LF	2,873.000	35
	677	2005		ELIM EXT PAV MRK & MRKS (12") DOLLARS and CENTS	LF	1,614.000	36
	677	2007		ELIM EXT PAV MRK & MRKS (24") DOLLARS and CENTS	LF	325.000	37
	678	2001		PAV SURF PREP FOR MRK (4") DOLLARS and CENTS	LF	13,035.000	38
	678	2003		PAV SURF PREP FOR MRK (8") DOLLARS and CENTS	LF	4,039.000	39
	678	2004		PAV SURF PREP FOR MRK (12") DOLLARS and CENTS	LF	1,725.000	40
	2315	2001		MCTB (FURNISH AND INSTALL) DOLLARS and CENTS	EA	2,490.000	41
	3271	2014		STONE-MTRX-ASPH SMA-D SAC-A PG76-22 DOLLARS and CENTS	TON	3,185.000	42

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6055	2001		IN-LANE OR TRANSVERSE RUMBLE STRIP DOLLARS and CENTS	LF	120.000	43
	6834	2001	002	PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	56.000	44
	6900	2001		LED LANE CONTROL SYSTEM DOLLARS and CENTS	EA	4.000	45
	7419	2001		PREPARATION OF EXISTING CONDUIT DOLLARS and CENTS	LF	200.000	46
	8251	2003	005	RE PM W/RET REQ TY I(W)4"(BRK)(100MIL) DOLLARS and CENTS	LF	1,210.000	47
	8251	2006	005	RE PM W/RET REQ TY I(W)4"(SLD)(100MIL) DOLLARS and CENTS	LF	5,584.000	48
	8251	2018	005	RE PM W/RET REQ TY I(Y)4"(SLD)(100MIL) DOLLARS and CENTS	LF	6,211.000	49
	8868	2003		REMOVE EXISTING LANE CONTROL SYS-TEM DOLLARS and CENTS	EA	4.000	50
	8939	2002		RETROFIT EXIST FO DMS SYS (TY-2) TO LED DOLLARS and CENTS	EA	1.000	51

**********GENERAL NOTES**********

========== **Asphalt Concrete Pavement** ==========

Type	Location	Depth	Rate/Area	Quant-Unit
3271 SMA-D	IH 35	2”	230 LB/ 27,700 SY (SAC-A PG 76-22)	3,185 TONS

========== **Surface Treatment Data** ==========

Description	1st Course	Quant-Unit
ASPHALT (AC-15P, 20-5TR, 20XP, OR 10-2TR)	0.3 GAL/ 27700 SY	8310 GALS
AGGREGATE (TY B GR 4)	1 CY/115 SY (27700 SY)	241 CY

Steel Wrapped or Asbestos Utility Lines:

Existing steel wrapped natural gas and/or asbestos cement (AC) water lines that will no longer be in service are usually abandoned in place (AIP). However, if any of these lines have to be removed for whatever reason (in the way of other construction, to make tie-ins, etc.) comply with all federal, state and local laws, ordinances and regulations regarding the management of these materials. At a minimum:

1. Contact the Engineer.

2. Remove the minimum amount of pipe needed to perform the proposed work.

3. Cover and secure the ends of the pipe with a double layer of 6 mil plastic. If the pipe is damaged, cover the entire pipe.

4. Move the pipe to an approved temporary site within the project.

5. The Engineer will determine the owner (utility company) of the pipe and will coordinate removal from the project. The contractor will load the pipe onto the removal vehicles but will NOT be responsible for removing the pipe from the project.

6. Removal of the pipe from the trench is subsidiary to the work that created the need for the removal (excavation for structures, roadway, a new line, tie-ins, etc.). The work performed in handling the pipe after it has been removed from the trench (covering with plastic, hauling to the temporary site and later loading on to the disposal vehicles will be paid for through the Force Account procedure.

Contact the Engineer or the City when construction operations are within 400 feet of a signalized intersection to determine/verify the location of loop detectors, conduit, ground-boxes, etc.

Repair or replace any signal equipment damaged by construction operations. The method of repair or replacement shall be pre-approved and inspected. Depending on the type and extent of the damage, the Engineer reserves the right to perform the repair or replacement work and the Contractor will be billed for this work.

Remove existing raised pavement markings as the work progresses or as approved. This work is subsidiary to the various bid items. Properly dispose materials removed.

To better fit field conditions, the cross sections may be varied when approved.

If there are waste areas or material source areas, follow the Texas Aggregate Quarry and Pit Safety Act requirements.

Any materials removed and not reused and determined to be salvageable shall be stored within the project limits at an approved location or delivered undamaged to the storage yard as directed. Properly dispose unsalvageable materials in accordance with local, state, and federal regulations. Deface traffic signs so that they will not reappear in public as signs.

Any sign panels that are adjusted or removed and replaced, shall be done the same workday unless otherwise approved.

Notify the Engineer at least two weeks prior to a proposed traffic pattern change(s) that will require a revision to traffic signals.
Hurricane Evacuation

Hurricane Season is from June 1 thru November 30. As the closest metropolitan city inland from the Texas Coast, the City of San Antonio is a major shelter destination during mandatory hurricane evacuations. As such, planned work zone lane or road closures may be restricted and/or suspended during mandatory hurricane evacuation operations. The District will coordinate these restrictions at a minimum H-120 from any projected impact to the Texas Coast.

No time charges will be made if the Engineer determines that work on the project was impacted by the hurricane.

The Engineer may order changes in the Traffic Control Plan to accommodate evacuation traffic, and may suspend the work, all or in part, to ensure timely completion of this work. All work to implement changes in the Traffic Control Plan will be paid through existing bid prices or through Item 9.5, Force Account. However, the Department will not entertain any request for delay damages, loss of efficiency that may be attributed to the restriction or suspension of road or lane closures, or to changes in the Traffic Control Plan.

The Contractor should be aware that the "City Public Service" (CPS) will be consulted by the Engineer in matters concerning the execution of the work, materials and testing related to the

CPS work. As such; a CPS employee may be observing the construction and related operations as they progress.

--Item 5--
Reference all existing striping and other pavement markings to allow these markings to be re-established. Ensure the markings (lane lines, edge lines, ramp gores, etc.) are in line with signs, TMS arrows, etc. located on overhead sign supports.

Taper ACP placed at curb inlets, traffic inlets and slotted drains.

When a bridge deck is milled, seal coated and overlaid, remove excess material. Do not just broom to the sides of the bridge, under guardrail, etc. Cover or protect all sealed expansion joints and rails on bridges and all railroad tracks encountered as approved. Clean all of these features if they weren't properly protected. This work is subsidiary work to applicable bid items.

When working near aerial electrical lines or utility poles, comply with Federal, State and local regulations. For electrical lines and poles shown in the plans, if the lines need to be de-energized or if poles need to be braced, contact the electrical company. Work pertaining to de-energizing lines, bracing poles and other protective measures will not be paid by TxDOT.

Prevention of Migratory Bird Nesting

It is anticipated that migratory birds, a protected group of species, may try to nest on bridges, culverts, vegetation, or gravel substrate, at any time of the year. The preferred nesting season for migratory birds is from February 15 through October 1. When practicable, schedule construction operations outside of the preferred nesting season. Otherwise, nests containing migratory birds must be avoided and no work will be performed in the nesting areas until the young birds have fledged.

Structures

Bridge and culvert construction operations can not begin until swallow nesting prevention is implemented, until after October 1 if it's determined that swallow nesting is actively occurring, or until it's determined swallow nests have been abandoned. If the State installed nesting deterrent on the bridges and culverts, maintain the existing nesting deterrent to prevent swallow nesting until October 1 or completion of the bridge and culvert work, whichever occurs earlier. If new nests are built and occupied after the beginning of the work, do not perform work that can interfere with or discourage swallows from returning to their nests. Prevention of swallow nesting can be performed by one of the following methods:

1. By February 15 begin the removal of any existing mud nests and all other mud placed by swallows for the construction of nests on any portion of the bridge and culverts. The Engineer will inspect the bridges and culverts for nest building activity. If swallows begin nest building,

scrape or wash down all nest sites. Perform these activities daily unless the Engineer determines the need to do this work more frequently. Remove nests and mud through October 1 or until bridge and culvert construction operations are completed.

2. By February 15 place a nesting deterrent (which prevents access to the bridge and culvert by swallows) on the entire bridge (except deck and railing) and culverts.

No extension of time or compensation payment will be granted for a delay or suspension of work caused by nesting swallows. This work is subsidiary to the various bid items.

Provide a non-intrusive back-up alarm system on all heavy equipment used in close proximity to residential areas. This item is subsidiary to various bid items.

--Item 6--
Show the stockpile lot and/or sub lot numbers on all tickets for all materials.

--Item 7--
The total disturbed area within the project is anticipated at less than one (1) acre. Due to this type of construction, the project qualifies for exclusion under the Construction General Permit (CGP) issued by the Texas Commission on Environmental Quality (TCEQ). However; should the sum of the Engineer's anticipated disturbances and the Contractor's (On ROW and off ROW) PSL's equal or exceed the one (1) acre threshold; both TxDOT and the Contractor have project responsibilities under the CGP that reverts to non-exclusion status. Obtain approval for all non-depicted areas of disturbance that increases the initial soil and vegetation disturbed area estimates before work starts at these locations.

Notify the Engineer of the disturbed acreage within one (1) mile of the project limits. Obtain authorization from the TCEQ for Contractor PSL's for construction support activities on or off ROW.

--Item 8--
Working days will be computed and charged in accordance with Article 8.3.C.1:5-Day work week.

Locate and reference with station and offset all manholes and valves within the construction area. Each manhole and valve shall be identified by its owner (SAWS, CPS, etc.). No roadwork will begin until this list has been submitted. Gas valves have to be accessible at all times, therefore; temp. CTB, material stock piles, etc. can not be placed over these valves.

Construct all manholes and valves to final pavement elevations prior to the final mat of ACP. If, between the final elevation adjustment and the final mat of ACP, the manholes and valves are going to be exposed to traffic, place temporary asphalt around the manhole and valve to provide

a +/- 50:1 taper. The cost of elevation adjustment will be part of the manhole and valve work, and asphalt tapers are part of the ACP work.

Lane Rental Charge

The Lane Rental Charges are shown in the plans on the Lane Closure Fee Schedule sheet. The Lane Closure Fee Schedule applies to IH 35 mainlanes and ramp closures or obstructions of the lanes that overlap into restricted hour traffic for each hour, per lane, per mile. The length of each closure is measured from the point of the lane closure taper and is measured to the point where traffic is opened up to preconstruction configuration.

Unless otherwise shown in the plans, directed or approved, the contractor shall limit lane closures to the approved hours listed in the Lane Closure Fee Schedule sheet in the plans.

If the Contractor fails to re-open closed lanes and / or ramps on time, late charges will be assessed as shown on the Lane Closure Fee Schedule sheet in the plans.

--Item 9--
When approved, provide uniformed, off-duty law enforcement officers with marked vehicles during work that requires a lane closure. The officer in marked vehicles shall be located as approved to monitor or direct traffic during the closure. The method used to direct traffic at signalized intersections shall be as approved. Additional officers and vehicles may be provided when approved or directed.

Complete the daily tracking form provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided.

Minimums, scheduling fees, etc. will not be paid; TxDOT will consider paying cancellation fees on a case by case basis.

--Item 100--
Begin clearing operations after trees and other areas of vegetation to be protected have been identified and approved. Install fencing around features to be protected as shown in the plans or directed. Coordinate all right of way clearing operations with the SW3P.

Trim and remove brush and trees as needed for construction operations. Obtain approval for proposed method of tree and brush trimming and removal. Vertical flailing equipment is not allowed. Treat damaged or cut branches, roots and/or stumps of all oak trees with a commercial tree wound dressing. Disinfect all pruning tools with a solution of 70% alcohol before moving from one tree to another. Unless otherwise approved remove all resulting vegetative debris from the ROW within 24 hours. The Engineer can stop all construction operations if the dressing, cut and removal requirements are not followed.

--Item 302--
Previously tested aggregates found to contain excessive quantities of dust (more than 0.5 percent passing the No. 40 sieve) during precoating, stockpiling or hauling operations, may be rejected. Use Test Method Tex-200-F, Part I for testing.

Precoated Aggregate Type PE shall consist of crushed slag, crushed stone or natural limestone rock asphalt.

The Engineer will utilize the Ignition Oven Method (Tex 236-F) for aggregate gradation, with the option of utilizing belt or vacuum extraction gradation in the event the ignition oven malfunctions.

--Item 316--
When using latex asphalt, avoid drifting of asphalt onto traffic and adjacent properties.

Asphalt season will be year around, but meet sections 316.4.D.1 through 3.

Ensure that the asphalt for precoating the aggregate and the asphalt used for the surface treatment will not result in a reaction that may adversely affect the bonding of the aggregate and asphalt during the surface treatment operation.

Do not add bag house fines in the production of precoated material.

Clean all concrete curbs, islands, medians, etc. that get coated with asphalt.

--Item 320--
Construct all longitudinal ACP joints adjacent to a travel lane with a joint maker device that will create a 3:1 to 6:1 taper. For placement of 2 inches or more, the device shall provide a maximum ½ inch vertical edge. Taper outside edges (next to the grass) or backfill (shoulder-up) the same day.

Provide a material transfer device capable of providing a continuous flow of material to the paver. The material transfer device will consist of a windrow elevator or better.

--Item 354—
Contractor shall retain planed material.

Take precaution to avoid damage to existing bridge decks and armor joints. Repair any damage to the bridge decks and/or armor joints as approved.

--Item 427--
Finish all TMS concrete structures with a Grade I Class B, Type I finish or as approved by the Engineer.

--Item 432--
In all riprap slopes, provide 3 inch diameter weep holes at 10 foot maximum spacing and backed with loose graded gravel or crushed stone and galvanized hardware cloth.

In areas where guard fence posts are to be placed in riprap, the riprap shall have an 18 inch +/- blocked out area (round or square).

Match the slope of the Riprap (Mow Strip) to the slope of the adjacent roadway.

--Item 496--
Provide for the safety and health of employees and abide by all OSHA Standards and Regulations. All costs incurred for proper management, shall be subsidiary to this Item.

--Item 500--
"Materials on Hand" payments will not be considered in determining percentages for mobilization payments.

--Item 502--
The Contractor Force Account “Safety Contingency” that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor’s Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Place standard markings no later than 14 days after surface treatment operations are completed.

When advanced warning flashing arrow panels and/or changeable message sign is specified, have one standby unit in good condition at the job site.

Treat the pavement drop-offs as shown in the TCP.

After written notification, the time frame to provide properly maintained signs and barricades before considered in non-compliance is 48 hours from receipt of the notification.

There are traffic signals at the intersection of Brooklyn Ave and McCullough Ave. Keep the signals in operation except when necessary for specific installation operations.

Moving an existing sign to a temporary location is subsidiary to this Item. Installations with permanent supports at permanent locations will be paid for under the applicable bid item (s).

Notify the Engineer 5 business days in advance of any temporary or permanent lane, ramp, connector, etc. closures/detours, restrictions to lane widths, alterations to vertical clearances, or modifications to radii. Any other modifications to the roadway that may adversely affect the mobility of oversized/overweight trucks also require 5 business days advance notice to the Engineer. Unless shown in the TCP, no lane, ramp, connector, etc. closures are allowed during special events. At least one lane has to remain open at all times. For all lane closures, provide written closure information by 1:00PM on the business day prior to the closure. For closures on a Monday or following a Holiday, furnish the information the workday prior to the closure. Lane closures will not be allowed if this reporting requirement is not met.

For closures not listed in the TCP; the lane closures are limited to between the hours of 9:00 p.m. and 5:00 a.m., and at least one lane has to remain open at all times.

The shadow vehicle with truck-mounted attenuator (TMA) will not be optional, but will be required as shown on the appropriate Traffic Control Plan sheets. Truck-mounted attenuators shall meet the requirements of the Compliant Work Zone Traffic Control Device List. The use of truck-mounted attenuators will not be paid directly, but shall be considered subsidiary to Item 502.

Any work being done above the travel lanes on the overhead sign bridges will require the lanes to be closed for traffic safety.

Avoid placing stockpiles within the roadway's horizontal clear zone. If a stockpile is placed within the clear zone, address in accordance with the TMUTCD.

Do not place barricades, signs, or any other traffic control devices where they interfere with sight distance at driveways or side streets.

The Contractor's Responsible Person (CRP) shall be certified by TEEX, ATSSA, the National Safety Council or other approved organization. Certifications shall be submitted to the Engineers at the pre-construction meeting.

The Contractor's Responsible Person for work zone traffic controls shall inspect and insure any deficiencies are corrected each and every day throughout the duration of this Contract. Any misaligned or damaged traffic control devices shall be repaired as soon as practical after deficiency is discovered.

In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have an employee available to respond on the project for emergencies and for taking corrective measures within 2 hours or within a reasonable time frame as specified by the Engineer.

Temporary Rumble Strips are to be used according to WZ (RS)-14. It is the Contractors responsibility to ensure installation of temporary rumble strip does not damage the existing bridge deck.

Use 3 number of rumble strip arrays.

--Item 545--
Crash Cushion will be a Barrier Systems Attenuating Crash Cushion (narrow). See Standard Drawing TAU-II-R(N)-13A for additional information.

Contractor will use rebar locator device to locate and mark locations of existing post-tensioning ducts/strands and mild reinforcing steel in bridge deck prior to drilling holes for anchor bolts for front cable and backstop base plates. Base plates shall be located in accordance with manufacturer's recommendations. Utilize optional anchor locations shown in the plans to avoid post-tensioning ducts/strands and mild reinforcing steel in bridge deck, as recommended by the manufacturer.

Contractor must use a hammer drill with masonry bits to drill holes for anchor bolts; coring will not be allowed. Holes will be drilled to 4-inch (max) depth and drilling must stop if a duct, strand, or rebar is hit/detected. An epoxy meeting bolt pullout requirements at a 4-inch embedment depth, as recommended by the manufacturer, will be required.

--Item 585--
Use Surface Test Type B, pay adjustment schedule 3 to evaluate ride quality of travel lanes.

--Item 658--
CTB reflectors will not be paid for directly but will be considered subsidiary to the barrier.

--Item 666 & 8251--
If TY II material is used (vs. an acrylic or epoxy) as the sealer for the TY I markings, place the TY II a minimum of 14 calendar days (to provide adequate curing) before placing the TY I markings.

--Item 672--
Place all adhesive material directly from the heated dispenser to the pavement. Do not use portable or non-heated containers. Use adhesive of sufficient thickness so that when the marker is pressed into the adhesive, 1/8" or more adhesive will remain under 100% of the marker. The adhesive should extend not less than 1/2" but not more than 1 1/2" beyond the perimeter of the marker.

--Item 677--
Obtain approval before using the mechanical method for the elimination of existing thermoplastic pavement markings.

--Item 1122--
It is not anticipated that erosion control devices will be needed. However; in the event devices are needed, the SW3P shall consist of the control measures approved. Depending on the type and amount of work, payment will be handled with the Force Account Procedure, or by individual pay items.

--Item 2315--MOVEABLE CONCRETE TRAFFIC BARRIER FOR PERMENANT APPLICATION
Moveable concrete traffic barrier will be Concrete Reactive Tension System-Quickchange Moveable Barrier (CRTS-QMB) made by Barrier Systems, Inc.

Barrier will require expansion type Variable Length Barrier (VLB) segments to be placed at seven (7) bridge expansion finger joints that the barrier crosses. The VLB segments will not be paid for directly but will be subsidiary to the barrier.

--Item 3271--
Hamburg Wheel Test Requirements tested in accordance with Tex-242-F are changed for PG 64-22 or lower and PG 70-22. Minimum number of passes at 1/2" Rut Depth, Tested at 122 degrees F will be 5,000 and 10,000 respectively.

Design all mixture types using a target laboratory-molded density of 96.5%, when the Texas Gyrator Compactor is utilized

The asphalt plant shall have truck scales as defined in Item 520. Give three weight tickets bearing the date, the truck number, the gross, net & tare weights to the truck driver for the State inspector at the spreading and finishing operation. Trucks may be required to weigh on public scales or portable platform scales to verify the weight of the ticket.

Submit a copy of the Tex 233-F production charts on a weekly basis. At the end of the ACP work, provide all originals.

Crushing of aggregate for hot mix and immediate use for production of the mix is not allowed.

Stockpile the aggregate until enough material is available for five days of production unless prior approval is provided. Hold a pre-placement meeting one month prior to the placement of the hot mix.

The main purpose of hot mix cores taken by the State are for payment calculations. If (for quality control purposes) the core information is needed sooner, take additional cores.

Do not use diesel or solvents as asphalt release agents in production, transportation, or construction. A list of approved asphalt release agents is available from the District Laboratory.

No more than one hot mix lot will be open for any specific type of hot mix, unless authorized. After a lot is open and the Contractor gets approval to change plants, the previous lot will be closed and a new lot will be opened. The numbering for the lots produced at the new plant will start with No. 1. If allowed to switch back to the original or previous plant, the next lot from that plant will resume numbering sequentially from the last lot produced by that plant.

Schedule lay-down placement where uneven travel lanes are minimized and eliminated weekly.

If asphalt material is obtained from other than a commercial source presently inspected by TxDOT, furnish a Type D structure for the asphalt mix control laboratory for the Engineer's use. Provide a minimum height of 8 feet and a minimum of 400 square feet of gross floor area for permanently located asphalt plants or 200 square feet for a temporary plant. The floor area will be partitioned into a minimum of two rooms, with a minimum of two windows per room. The floor shall have an impervious cover and sufficient strength to support the testing equipment. Portable structures shall be support blocked for stability and shall be tied down.

The use of Recycled Asphalt Shingles (RAS) will not be allowed on the final riding surface.

Minimum Roadway Placement Temperature
--Item 3271--
Place mixture when the roadway surface temperature is equal to or higher than listed in Table 1 unless otherwise approved or shown on the plans. Measure the roadway surface temperature with a handheld infrared thermometer. Placement may be allowed to begin prior to the roadway surface reaching the required temperature if conditions are such that the roadway surface will reach the required temperature within 2 hrs. of beginning placement operations. Place mixtures only when weather and moisture conditions of the roadway surface are suitable in the opinion of the Engineer.

Table 1
Minimum Pavement Surface Temperatures

		Minimum Pavement Surface Temperatures in Degrees Fahrenheit *	
Specification Item Number	High Temperature Binder Grade	Subsurface Layers or Night Paving Operations	Surface Layers Placed in Daylight Operations
SS 3267	PG 64	45	50
	PG 70	55	60
	PG 76	60	60
SS 3127, SS 3142,	PG 76	65	70

SS 3269 & SS 3271	Asphalt Rubber (A-R)	65	70

* Except for PG 64, may pave at temperatures 10º F lower than the values shown in Table 1when utilizing a paving process or equipment that eliminates thermal segregation. In these cases, use either an infrared bar attached to the paver, or a hand held thermal camera, or a hand held infrared thermometer operated in accordance with Text Method 244-F to demonstrate that the uncompacted mat has no more than 10º F of thermal segregation.

TMS General Notes
"TMS" is abbreviation for Traffic Management System.

Coordinate the installation of permanent TMS equipment, conduit, manholes, ground boxes, etc. with the roadway construction phasing so as to prohibit any open cuts across new construction. Coordinate all lane closures necessary to install TMS equipment over roadways.

All references to the TRANSGUIDE mainframe are references to the TRANSGUIDE computer network.

Provide a submittal compliance matrix with all TMS submittals.

Perform all TMS Prototype approval, Design approval, and Demonstration tests within the State of Texas.

Not previously used TMS equipment:
Test any TMS Equipment which has not previously been proven to be fully operational and fully compatible with the existing TRANSGUIDE software and hardware in the following manner:

Conduct tests for each type of TMS equipment, as directed by the Engineer, to determine compatibility of the equipment with the existing TRANSGUIDE software and hardware. Prior to field installation, test one complete unit with all components to ensure that it is fully compatible with the existing TRANSGUIDE system. Mount the equipment to a trailer and connect in the field to an existing Fiber Hub. Make all hardware connections and configuration (in the operations center and in the field) and provide all incidentals (cable, connectors, etc.) to make the unit operational. Test all aspects of the system to show full functionality of the equipment and to show full compatibility with the TRANSGUIDE software and hardware. Failure to perform to the requirements of any test will be considered as a defect, and the equipment will be subject to rejection by the Engineer. Rejected equipment may be offered again for retest provided all noncompliance's have been corrected and retested by the Contractor and evidence thereof submitted to the Engineer. Testing is considered subsidiary to the particular bid item, with no direct payment made.

Partial Payments:

The contractor will receive partial payments for the following TMS items unless otherwise approved by the Engineer:

LED Lane Control System
Retrofit Existing Fiber Optic Dynamic Message Sign System (TY-2) to LED

Partial Payments Consist Of The Following:

Materials On Hand: the Contractor's paid amount is based on the invoices for the material received and stored in his/her yard.

Field Installation: When the Contractor has completed the support structure, (mounted the Lane Control Signal Heads) and installs the controller, the department will pay 80% of the bid item.

Stand-Alone Test: when the equipment has passed the stand-alone test, the department will pay 95% of the bid item.

When the TMS equipment has passed the test portion of the final acceptance test, the Department will pay 100% of the bid item.

Field Installation: Retrofit Existing Fiber Optic Dynamic Message Sign System to Led: When the Contractor has completed the retrofitted DMS and installed the controller, the department will pay up to 80% of the bid item.

Stand-Alone Test: When the retrofitted DMS has passed the stand-alone test, the department will pay up to 95% of the bid item.

When the retrofitted DMS has passed the test portion of the final acceptance test, the Department will pay the final 5% of the bid item

The above percentages do not include the deduction for standard Retainage.

Submittals:
Include in all TMS submittals the respective bid item (specification number and descriptive code). Indicate compliance on a paragraph by paragraph basis. Ensure that the statements claiming compliance reference the appropriate documentation and the referenced documentation supporting this claim is included with the submittal. Provide referenced documentation that contains the same numbering system as referenced in the submittal. For example, submittal item XXXX-XXXX, Section 2.3, Paragraph 3, Meets Requirements (See Attachment "B"). The supporting documentation for Item XXXX-XXXX, Section 2.3, Paragraph 3, would be titled as Attachment "B". Provide submittals with the same numbering system as stated in the specification. Failure to submit accordingly will result in rejection by the Engineer.

A TMS submittal will be considered as incomplete and therefore rejected, if it contains items listed as "being furnished by others". It is the responsibility of the Contractor to make sure the submittal addresses all items of the specification.

Provide the following TMS submittals (to be received by the department) within the designated time. The time frame is in calendar days.

Item Description	Submitted By Contractor W/I Days After Authorization To Begin Work	Returned By State W/I Days
Equipment & Interconnect Wiring Schematic	30	30
LED Lane Control System	30	30
Retrofit Existing Fiber Optic Dynamic Message Sign System to LED	30	30
Final Acceptance Plan	60	30

Submit those items designated with the (*), if any, together as a Package.

Submit the Final Acceptance Plan in electronic form.

The Contractor may submit items sooner if needed for construction, but no later than the dates stated above.

TMS equipment and conduit locations are approximate; the precise location is to be determined in the field, therefore the Contractor should not scale equipment off of plan sheets. Plan sheets are to be used for visual location (vicinity). Equipment locations may have to be adjusted due to conflicts with utilities or other structures, as approved by the Engineer. Do not obstruct the natural flow of water with Traffic Management equipment. In low water areas, place Traffic Management equipment on high side of ditch.

Replace or repair any existing to remain Traffic Management Equipment, conduit, cables, etc. damaged during construction, subsidiary to the various bid items with no direct payment. Replace all pavement, sidewalk, curb, rip-rap or any item damaged during construction, subsidiary to the various bid items with no direct payment.

Any existing TMS fiber optic cable damaged during construction will be replaced within 48 hours after detection of damage. The Contractor will be required to test the fiber and provide such tests to the Engineer for determining suitability for splicing. If no splice is permitted, the Contractor will replace the entire run (approx. 15,000 ft or actual length) at no direct cost to the Department. If new fiber optic cable is required, it must be submitted to the Engineer for approval.

Stencil structure numbers on all new TMS structures for permanent identification as directed by the Engineer.

Ensure that all TMS equipment furnished and installed is completely compatible with the existing hardware and software located within the TRANSGUIDE operations center (i.e. TRANSGUIDE central software). TRANSGUIDE is unique and complicated. The Contractor should contact the Traffic Management Engineer for details on the system network architecture.

All new TMS equipment and any existing TMS equipment that is relocated or replaced will be incorporated into the existing Network Management System, subsidiary to the various bid items.

Security against theft and vandalism of all Traffic Management equipment is the full responsibility of the Contractor until the date of final acceptance of the project by the Engineer.

Maintenance of all Traffic Management equipment furnished and installed on this project is the full responsibility of the Contractor until date of final acceptance of this project by the Engineer. All required documentation must be turned in before TxDOT will accept project for maintenance.

Submit a layout of equipment and interconnect wiring schematic for the TRANSGUIDE Control Center and Fiber Hubs for approval by the Engineer prior to ordering materials. Consider all interconnect wiring and associated labor within the TRANSGUIDE Control Center and all interconnect wiring and labor for all equipment in the plans and described within the specifications as subsidiary to the various Bid Items with no direct payment.

Consider the adjusting and/or removal of sign panels on OSB structures to mount TMS Lane Control Signal heads as subsidiary to the various Bid Items with no direct payment, as directed by the Engineer.

LCS heads and associated conduit and cables that are to be removed will be disposed by contractor. Disposal of these items are considered subsidiary to the various bid items.

All TMS cabinets and controllers that will be permanently removed will be delivered to TransGuide by the contractor. Delivery is considered subsidiary to the various bid items. Contractor is required to notify TransGuide’s maintenance office 48 hours prior to delivery to make necessary arrangements.

Perform all TMS electrical work and provide all TMS electrical materials in accordance with the National Electrical Code.

The location of utilities (including TMS), either underground or overhead, if shown within the right of way are approximate and must be verified by the Contractor before beginning construction operations. TRANSGUIDE will provide the approximate location of TMS

equipment, however, it is the responsibility of the Contractor to determine the depth of the Traffic Management conduit.

In accordance with the Underground Facility Damage Prevention Act (One Call Bill) the phone number for a utility locator is 1-800-545-6005. It is the Contractor's responsibility to make arrangements for utility locators as needed.

TxDOT (Traffic Management)	(210)731-5109
TxDOT (Sign Lighting)	(210)615-6995
TxDOT (Traffic Signal)	(210)615-5975

In preparing holes for TMS posts and/or foundations, use care so as not to rupture existing drainage structures, sprinkler systems, electrical conduits and public utilities.

Any TMS equipment that requires integration into the TransGuide system will be worked on only between the hours of 12:00 am (midnight) and 4:00 am when the work requires an interface with the TRANSGUIDE operational system. Notify the TransGuide operations manager (731-5139) 48 hrs prior to this work. The contractor is responsible for all cross connects and provisioning in the TRANSGUIDE computer room and Fiber Hubs, subsidiary to the various bid items.

--Item 620--
Wire nuts for TMS installations are not be permitted.

In locations where TMS service conductors are routed through ground boxes with other cables, install a section of flexible PVC conduit in the ground box. Route the service conductors through this conduit to keep it separated from other cables. Isolate all other cables in the ground box in the same manner. Furnishing and installing the flexible PVC conduit is subsidiary to the various bid items with no direct payment.

To ensure immediate identification, consistently color code and permanently identify all TMS power conductors, twisted wire pair cables, shielded cables, control cables, and fiber optic cables in all manholes, ground boxes, and at all termination points and splices. Submit a chart or list identifying all cables and conductors in a logical and sequential manner.
Install all TMS conductors and cables continuous and without splices from terminal point to terminal point unless otherwise shown on the plans.

Provide an electrical conductor insulated ground in accordance with the National Electrical Code for any TMS conduit containing electrical conductors (insulated).

Test all TMS circuits to be clear of faults, grounds or open circuits.

--Item 6010—COMMUNICATION CABLE
Splices of communication cable are not allowed on this project. Test all pairs to ensure they are good before installation.

If any existing TMS communication cable that is shown to remain is damaged, it will be replaced in its entirety (terminal point to terminal point – no splices allowed) at no cost to the department. Replace and make fully operational any cable damaged within 48 hours after damage is detected.

Provide cable of size and gauge as shown on plans.

Rack TMS communication cables to side of any manhole it passes thru. Provide 1 1/2 turns of cable in each ground box or manhole it passes thru.

Ground the communication cable shield for the CCTV camera in the CCTV equipment cabinet.

--Item 6011-- FINAL ACCEPTANCE PLAN
The 60 day test will begin only when all TMS equipment installation, cabling, wiring, testing, field work, TRANSGUIDE operations center work, etc. for the entire project is completed and acceptable to TxDOT. Partial testing is not allowed.

--Item 8868-- REMOVE AND RELOCATE EXISTING TRAFFIC MANAGEMENT EQUIPMENT
Verify the location of other sign panels on the overhead sign bridges in the field prior to installation of the LED LCS heads.

Provide all necessary conduit and cables from all LED LCS heads to LCS controllers, subsidiary to this item with no direct payment. Submit to the Engineer for approval the mounting details of the LCS Heads and associated conduit that are to be installed on existing or proposed structures.

Galvanize all structural steel, bolts, nuts and washers after fabrication.

Provide structural steel that conforms to A.S.T.M. Specification A-36. Provide clamp bolts that have square heads and hexagon nuts and confirm with A.S.T.M. Specification A-307 and with dimensions in accordance with ANSI B 18.2.1.

Provide aluminum post clamps made of cast aluminum alloy 356-T6. Provide aluminum bolts made of alloy 2024-T4.

Perform all work in accordance with the National Electrical Code.

Provide new pleated air filters in DMS cabinets, LCS cabinets, and Fiber Hubs in which work is performed. Fiberglass air filters are not acceptable.

Conduct all Lane Control System (LCS) (including LED LCS) testing at night with full closure or as approved by the Engineer.

Numbers assigned on the plans for Fiber Hubs are strictly for identification within the construction plans and are not to be used for programming the TMS equipment. Contact TransGuide automation for equipment numbers.

No portable notebook computers are required for the TMS portion of this project.

CONTROL : 0017-10-271
PROJECT : STP 1402(064)MM
HIGHWAY : IH 35
COUNTY : BEXAR

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION JUNE 1, 2004. STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 100 PREPARING RIGHT OF WAY (103)
ITEM 316 SURFACE TREATMENTS (210)(300)(302)(520)
ITEM 354 PLANING AND TEXTURING PAVEMENT
ITEM 500 MOBILIZATION
ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING
ITEM 545 CRASH CUSHION ATTENUATORS (421)
ITEM 636 ALUMINUM SIGNS (643)
ITEM 644 SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES (421)(440) (441)(442)(445)(634)(636)(643)(656)
ITEM 650 OVERHEAD SIGN SUPPORTS (416)(420)(421)(441)(442)(445) (449)(618)
ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)
ITEM 666 REFLECTORIZED PAVEMENT MARKINGS (316)(318)(662)(677)(678)
ITEM 668 PREFABRICATED PAVEMENT MARKINGS
ITEM 672 RAISED PAVEMENT MARKERS (677)(678)
ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS (300) (302)(316)
ITEM 678 PAVEMENT SURFACE PREPARATION FOR MARKINGS (677)

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED HEREON WHEREVER IN CONFLICT THEREWITH.

REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, MAY, 2012)
WAGE RATES
SPECIAL PROVISION "NOTICE TO ALL BIDDERS" (000---003)

SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY" (000---004)
SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS" (000---006)
SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT" (000---009)
SPECIAL PROVISION "DEPARTMENT DIVISION MAILING AND PHYSICAL ADDRESS" (000---011)
SPECIAL PROVISION "NOTICE OF CHANGES TO U.S. DEPARTMENT OF LABOR REQUIRED PAYROLL INFORMATION" (000--1483)
SPECIAL PROVISION "ON-THE-JOB TRAINING PROGRAM" (000--2638)
SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL AID CONTRACTS" (000--1966)
SPECIAL PROVISION "PARTNERING" (000--2329)
SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000--2332)
SPECIAL PROVISION "NONDISCRIMINATION" (000--2607)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--2839)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--2122)
SPECIAL PROVISION TO ITEM 1 (001---015)
SPECIAL PROVISION TO ITEM 2 (002---017)
SPECIAL PROVISION TO ITEM 3 (003---033)
SPECIAL PROVISION TO ITEM 4 (004---017)
SPECIAL PROVISION TO ITEM 5 (005---004)
SPECIAL PROVISIONS TO ITEM 6 (006---030)(006---047)
SPECIAL PROVISION TO ITEM 7 (007---918)
SPECIAL PROVISIONS TO ITEM 8 (008---006)(008---119)(008---151)
SPECIAL PROVISIONS TO ITEM 9 (009---009)(009---015)
SPECIAL PROVISION TO ITEM 100 (100---002)
SPECIAL PROVISION TO ITEM 300 (300---039)
SPECIAL PROVISION TO ITEM 302 (302---010)
SPECIAL PROVISION TO ITEM 316 (316---016)
SPECIAL PROVISION TO ITEM 318 (318---010)
SPECIAL PROVISION TO ITEM 420 (420---002)
SPECIAL PROVISION TO ITEM 421 (421---035)
SPECIAL PROVISION TO ITEM 440 (440---006)
SPECIAL PROVISION TO ITEM 441 (441---008)
SPECIAL PROVISION TO ITEM 442 (442---016)
SPECIAL PROVISION TO ITEM 500 (500---011)
SPECIAL PROVISION TO ITEM 502 (502---033)
SPECIAL PROVISION TO ITEM 636 (636---014)
SPECIAL PROVISION TO ITEM 643 (643---001)
SPECIAL PROVISION TO ITEM 672 (672---034)
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 6011 (6011--019)
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 6834 (6834--002)
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 8251 (8251--005)

SPECIAL SPECIFICATIONS:

ITEM 2315 MOVEABLE CONCRETE TRAFFIC BARRIER FOR PERMANENT APPLICATION (420)(440)
ITEM 3271 STONE-MATRIX ASPHALT (210)(300)(301)(320)(520)(585)
ITEM 6011 TESTING, TRAINING, DOCUMENTATION, FINAL ACCEPTANCE AND

WARRANTY
ITEM 6013 ELECTRONIC COMPONENTS
ITEM 6026 NATIONAL TRANSPORTATION COMMUNICATIONS FOR ITS PROTOCOL FOR DYNAMIC MESSAGE SIGNS
ITEM 6055 IN-LANE OR TRANSVERSE RUMBLE STRIPS
ITEM 6834 PORTABLE CHANGEABLE MESSAGE SIGN
ITEM 6899 SOFTWARE SYSTEM INTERFACE
ITEM 6900 LED LANE CONTROL SYSTEM (656)(6011)(6013)(6899)
ITEM 7419 PREPARATION OF EXISTING CONDUIT
ITEM 8094 MOBILE RETROREFLECTIVITY DATA COLLECTION FOR PAVEMENT MARKINGS
ITEM 8251 REFLECTORIZED PAVEMENT MARKINGS WITH RETROREFLECTIVE REQUIREMENTS (316)(318)(502)(677)(678)(8094)
ITEM 8868 REMOVE AND RELOCATE EXISTING TRAFFIC MANAGEMENT EQUIPMENT
ITEM 8939 RETROFIT EXISTING FIBER OPTIC DYNAMIC MESSAGE SIGN SYSTEM TO LED (6011)(6013)(6026)

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFICATIONS FOR THIS PROJECT.

SPECIAL SPECIFICATION

2315

Moveable Concrete Traffic Barrier for Permanent Application

1. Description. Furnish and install a movable concrete traffic barrier (MCTB) system composed of continuous segments designed to be moved from a set position.

The MCTB shall be Concrete Reactive Tension System-Quickchange Moveable Barrier (CRTS-QMB) as manufactured by Barrier Systems Inc., and must be approved by FHWA for use on Federal Aid Highways or Projects and meet the evaluation criteria for the National Cooperative Research Program (NCHRP) Report 350, Test Level 3. The MCTB must be designed to allow the barrier ends to be moved behind an impact attenuater device and anchored as necessary to remain in a safe position if impacted within 20 ft. of the end of the barrier.

2. Materials.
Use materials that meet the requirements of the following Items:

- Item 420, "Concrete Structures"
- Item 440, "Reinforcing Steel"

The materials shall conform to the following material specifications:

- Welding wire fabric: ASTM A185
- Reinforcing Bars: Grade 40 or 60
- Steel Hinges: ASTM A36
- Through Rod: ASTM A36
- Nuts: IFI 7/8 UNC STD HEX NUT
- Washers: IFI 7/8 Medium Duty Spring Lock Washer
- Hinge Pin: AISI 4140 OR 4142
- Hinge Spring: ASTM A901

All exterior components of the MCTB system shall be hot dip galvanized in accordance with ASTM-A-123 or zinc chromate plated in accordance with ASTM B-633, except as follows:

a. Carbon spring steel components shall be protected from corrosion by a fusion coating of vinyl or epoxy materials or by other methods acceptable to the TxDOT Engineer.

b. Steel components in the replaceable rubber feet devices shall be zinc coated or stainless steel.

3. Construction Methods. The MCTB shall be fabricated and installed in accordance with the manufacturer's shop drawings and in accordance with the details shown on the plans. Damaged

units shall be replaced immediately. Information regarding assembly, installation, and/or manipulation of the MCTB may be obtained from Barrier Systems Inc., 180 River Road, Rio Vista CA 94571 (email: info@barriersystemsinc.com).

Prior to the beginning of casting, the Contractor shall give the Engineer ample notice as to the location of the casting site and the date on which the work will begin.

Mixing, placing and finishing of concrete shall be in accordance with TxDOT Item No. 420-Concrete Structures. Concrete shall be form-cured or water-cured for a minimum of four curing days or may be cured with Type I-D, Class B, membrane curing compound. Minimum concrete 28-day compressive strength shall be 4000 psi. All surface voids or rock pockets shall be repaired. Surface "bug holes" caused by trapped air bubbles shall be permitted. Air entrainment shall be as specified by the Engineer, plus or minus one half percent.

Type II-A-A reflectorized pavement markers, meeting Departmental Material Specifications DMS-4200-0898, Pavement Markers (Reflectorized), shall be applied on the top of the MCTB at minimum spacing of 50 ft. intervals for the entire length of the installed barrier.

The Contractor shall furnish and install all connecting hardware as per the manufacturer's shop drawings prior to installation. The barrier reflectors shall be installed as the barrier is installed or as directed by the Engineer.

MCTB, including any required hardware, which has been damaged or lost in the process of fabricating, curing or handling, shall be repaired or replaced as directed by the Engineer. All replacement and repairs made necessary by damage or loss occurring during the initial delivery to the approved holding site shall be made at the Contractor's expense.

4. Measurement. This Item will be measured by the foot, based on the nominal lengths of the barrier sections as shown on the plans.

5. Payment. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "MCTB (Furnish and Install)." This price shall be full compensation for furnishing and installing the barrier, including hardware assemblies, making all connections, and manipulating the barrier as shown on the plans or as directed by the Engineer, variable length barrier segments (VLB), pavement markers and shall include labor, tolls, transfer equipment and incidentals necessary to complete the work.